Figure x: South Coast energy intensity per acre foot of water

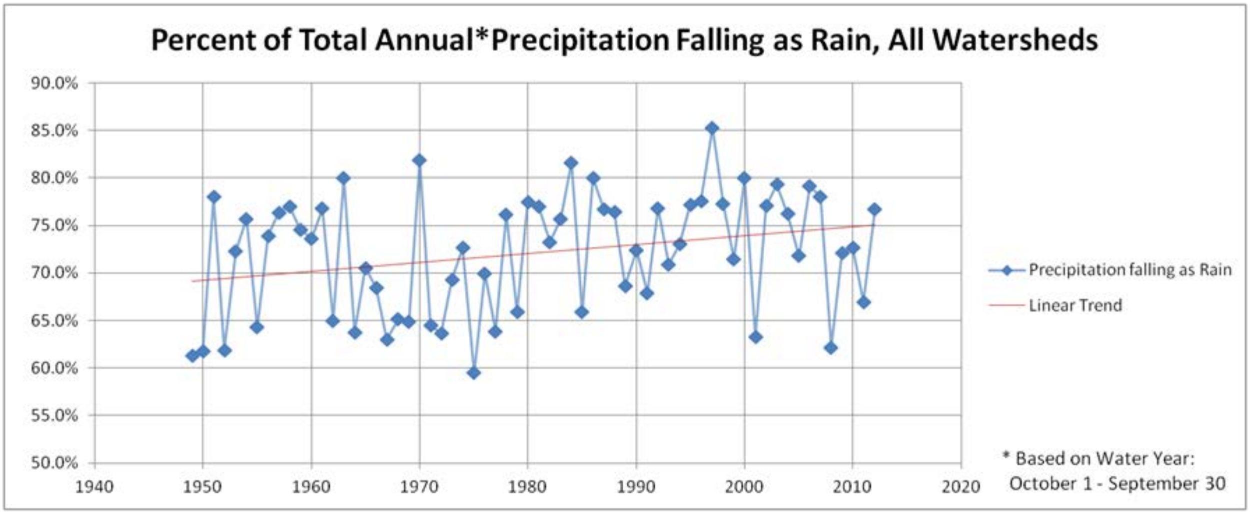
Type of Water	**Energy Intensity** (yellow bulb = 1-500 kWh/AF)	% of regional water supply
Colorado (Project)		21%
Federal (Project)	 <250 kWh/AF	0%
State (Project)		27%
Local (Project)	 <250 kWh/AF	4%
Local Imports	0*	5%
Groundwater		33%

* LAA is a net energy provider

Energy intensity per acre foot of water

Energy intensity (EI) in this figure is the total amount of energy required for the extraction and conveyance of one acre-foot of water and does not include treatment, distribution to point of use, or end use energy (e.g., water heating). These figures should be seen as ranges within which the EI of different sources of each water type would likely fall i.e., a water type with four bulbs should be interpreted to mean that most sources of that water type in the region would have an EI of between 1,501-2,000 kWh/ acre-ft of water. Smaller light bulbs represent an EI of greater than zero, and less than250 kWh/acre-ft. EI of desalinated and recycled water is not shown, but is covered in Resource Management Strategies #XX and #YY respectively, Volume 3. (For detailed description of the methodology used to calculate EI in this figure, see Technical Guide, Volume 5 or References Guide, Volume 4 (TBD)).

Draft Figure 3-17



Caption: Percent of Precipitation falling as rain over the main water supply watersheds of the State, for water years ending 1949 through 2012 (Oct 1948-Sept 2012), using Western Region Climate Center historic precipitation and freezing level re-analysis. This trend is in agreement with expectations under a warming climate. For data and analysis methodology, see "Estimating California Snowfall Trends Using Available Gridded Precipitation and Freezing Level Data," (*Volume 4, Reference Guide*).

Inset Map of watersheds:

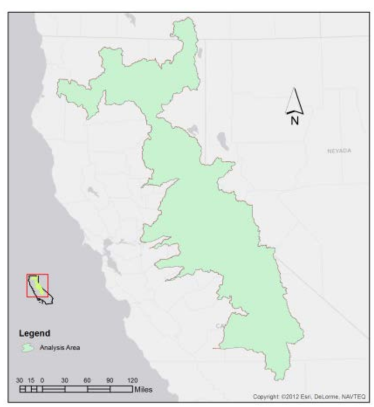
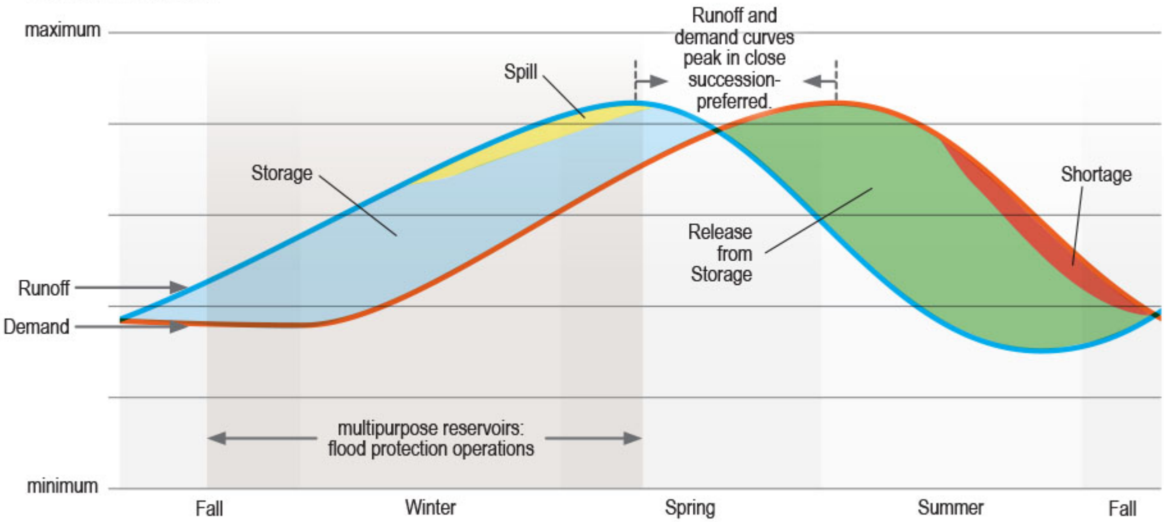


Figure 3-21 How Earlier Runoff Affects Water Availability

The conceptual impact of earlier runoff and increased summertime water demand is shown in the two curves. The curves show the general shape and timing of runoff and demand in California (individual watersheds will each have unique characteristics). Under "Current Conditions" (top box) runoff peaks in early spring only a few months before demand peaks in early summer. Much of the difference between high runoff and low demand in fall and winter can be captured and stored in the state's existing surface and groundwater storage facilities. That storage meets most of the demands later in spring and summer and shortages are minimal. Under "Projected Conditions" (lower box) runoff peaks in mid-winter, months before demand peaks in spring and summer. Summer-time demand is higher due to higher temperatures and high demand lasts longer into early fall due to longer growing seasons. Much of the earlier runoff is captured in storage facilities, but because the runoff arrives while reservoirs are being managed for flood protection, much of the runoff is spilled. In spring and summer demand far exceeds runoff and releases from storage, making shortages much more common.

Current Conditions:



Projected Conditions:

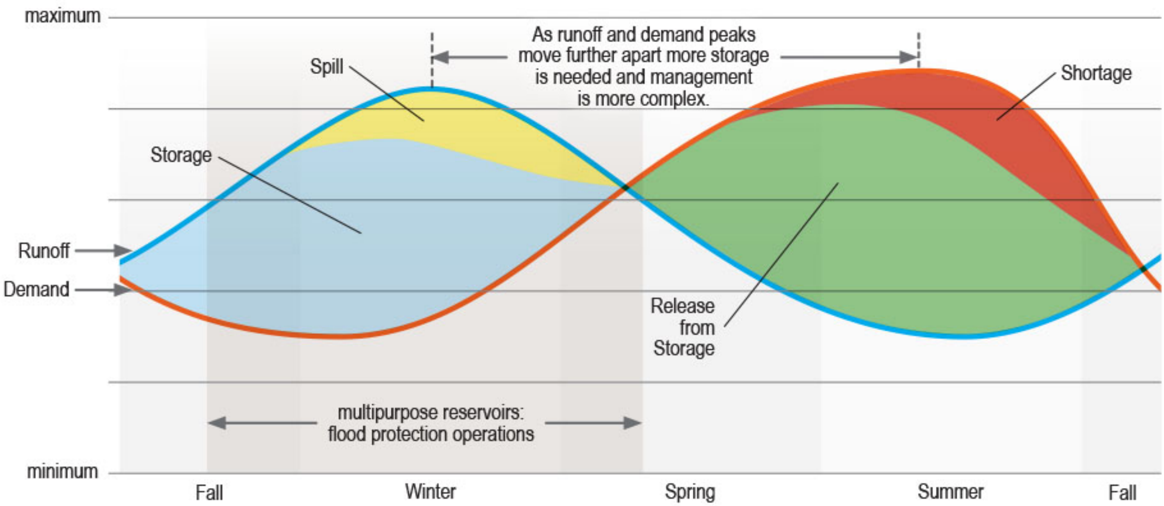
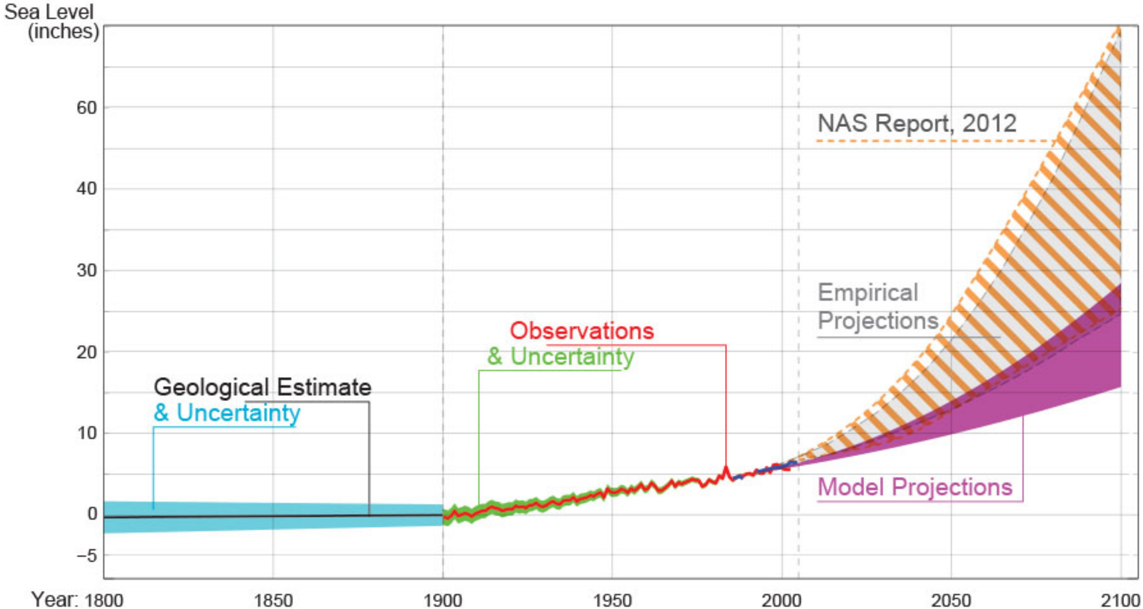
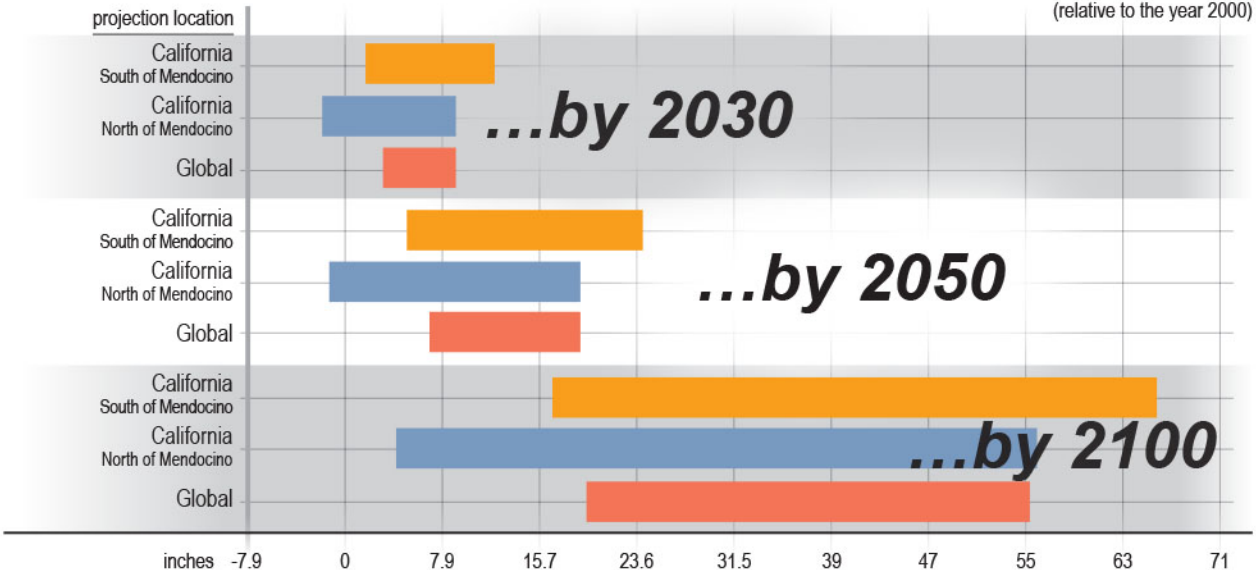


Figure 3-22 Global Sea Level Rise: Historic and Projected



Estimated, observed, and projected global sea-level rise from 1800 to 2100. The pre-1900 record is based on geologic evidence, and the observed record is from tide gages (red line) and satellite altimetry (blue line). Example projections of sea-level rise to 2100 are from IPCC (2007) global climate models (pink shaded area), semi-empirical methods (gray shaded area; Rahmstorf, 2007), and NAS report (yellow banded area, 2012). Reprinted with permission from "Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future," 2012, from the National Academy of Sciences, Courtesy of the National Academies Press, Washington, D.C.

Figure 3-23 West Coast and Global Sea Level Rise Projections



Reprinted with permission from "Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future," 2012, from the National Academy of Sciences, Courtesy of the National Academies Press, Washington, D.C.

Summary of regional projections of mean sea level rise from a National Academy of Sciences study (NAS, 2102), sponsored by California, Oregon, Washington, and three federal agencies. The highest observed values of sea level rise will occur during winter storms, especially during El Niño years when warmer ocean temperatures result in temporarily increased sea levels. Observed values can be much greater than the mean values shown here. For example, observed California sea levels during winter storms in the 1982-83 El Niño event were similar in magnitude to the mean sea levels now being projected for the end of the 21st century.

Figure 3-24 The Water and Energy Connection